

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A method for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes addresses, the method comprising ~~perform~~performing, by the mobile node, the steps of:

registering an address, for the mobile node, with an authoritative name server, wherein the registering step comprises:

specifying a current address for the mobile node, and
specifying a supplementary value that ensures the current address will not
be cached within non-authoritative name servers.

2. (Original) The method of claim 1 further comprising the steps performed by the mobile node of:

connecting to a new network location;
receiving a second network address differing from the current address previously
registered with the authoritative name server;
registering the second network address with the authoritative name server; and
issuing a first binding update to a correspondent node to which a connection was previously
created while the mobile node resided at the first network address, wherein a specified destination
address for the first binding update specifies a first correspondent node address.

3. (Original) The method of claim 2 further comprising the steps of.
receiving, by the mobile node, a binding update acknowledgement from the correspondent
node; and
restoring a disrupted connection between the mobile node and correspondent node.

4. (Original) The method of claim 2 wherein the mobile node performs the further steps
of:

registering a binding update failure with regard to the first binding update issued to the correspondent node at the first correspondent node address; and

issuing a naming query requesting a current address of the correspondent node.

5. (Original) The method of claim 4 further comprising the steps performed by the mobile node of.

receiving a naming query response to the naming query including a second correspondent node address for the correspondent node that differs from the first correspondent node address; and

issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address.

6. (Original) The method of claim 2 wherein the new network location resides outside a home network of the mobile node, and wherein the method comprises the further step of:

establishing a tunnel connection between the mobile node and a virtual private network server;

receiving, by the mobile node, a local network address specified by the virtual private network server, wherein the second network address corresponds to the local network address.

7. (Original) The method of claim 2 further comprising the step of.
initiating, by the mobile node, a binding connection through a rendezvous server residing outside the home network.

8. (Currently amended) The method of claim [[2]] 1 ~~further comprising the step of:~~
~~issuing a naming query requesting a current address of the correspondent node, before~~
~~receiving a response to the first binding update~~ wherein specifying the supplementary value
comprises specifying a time-to-live (TTL) value of zero.

9. (Currently amended) The method of claim [[8]] 2 further comprising:

issuing a naming query requesting a current address of the correspondent node, before receiving a response to the first binding update;

receiving a naming query response to the naming query including a second correspondent node address for the correspondent node;

determining that the second correspondent node address differs from the first correspondent node address; and

issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address.

10. (Currently amended) The method of claim [[9]] 1 wherein the ~~issuing a second binding update step is initiated based upon the determining step, and is therefore not dependent upon registering a failure of the first binding update issued to the correspondent node~~ authoritative name server is a domain name system (DNS) server.

11. (Original) A computer-readable medium including computer-executable instructions for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes addresses, the computer-executable instructions facilitating performing, by the mobile node, the steps of.

registering an address, for the mobile node, with an authoritative name server, wherein the registering step comprises:

specifying a current address for the mobile node, and

specifying a supplementary value that ensures the current address will not be cached within non-authoritative name servers.

12. (Original) The computer-readable medium of claim 11 further comprising computer-executable instructions for performing, by the mobile node, the steps of

connecting to a new network location;

receiving a second network address differing from the current address previously registered with the authoritative name server;

registering the second network address with the authoritative name server; and
issuing a first binding update to a correspondent node to which a connection was previously created while the mobile node resided at the first network address, wherein a specified destination address for the first binding update specifies a first correspondent node address.

13. (Original) The computer-readable medium of claim 12 further comprising computer-executable instructions for performing the steps of:

receiving, by the mobile node, a binding update acknowledgement from the 25 correspondent node; and

restoring a disrupted connection between the mobile node and correspondent node.

14. (Original) The computer-readable medium of claim 12 further comprising computer-executable instructions for performing, by the mobile node, the further steps of:

registering a binding update failure with regard to the first binding update issued to the correspondent node at the first correspondent node address; and

issuing a naming query requesting a current address of the correspondent node.

15. (Original) The computer-readable medium of claim 14 further comprising computer-executable instructions for performing, by the mobile node, the steps of:

receiving a naming query response to the naming query including a second correspondent node address for the correspondent node that differs from the first correspondent node address; and

issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address.

16. (Original) The computer-readable medium of claim 12 wherein the new network location resides outside a home network of the mobile node, and further comprising computer-executable instructions for facilitating performing the steps of:

establishing a tunnel connection between the mobile node and a virtual private network server; and

receiving, by the mobile node, a local network address specified by the virtual private network server, wherein the second network address corresponds to the local network address.

17. (Original) The computer-readable medium of claim 12 further comprising computer-executable instructions for:

initiating, by the mobile node, a binding connection through a rendezvous server residing outside the home network.

18. (Currently Amended) The computer-readable medium of claim ~~[[12]]~~ 11 further comprising ~~computer-executable instructions for:~~

~~issuing a naming query requesting a current address of the correspondent node, before receiving a response to the first binding update wherein specifying the supplementary value comprises specifying a time-to-live (TTL) value of zero.~~

19. (Currently Amended) The computer-readable medium of claim ~~[[18]]~~ 12 further comprising computer-executable instructions for:

issuing a naming query requesting a current address of the correspondent node, before receiving a response to the first binding update;

receiving a naming query response to the naming query including a second correspondent node address for the correspondent node;

determining that the second correspondent node address differs from the first correspondent node address; and

issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address.

20. (Currently Amended) The computer-readable medium of claim ~~[[19]]~~ 11 wherein the ~~issuing a second binding update step is initiated based upon the determining step, and is therefore~~

~~not dependent upon registering a failure of the first binding update issued to the correspondent node~~
authoritative name server is a domain name system (DNS) server.

21. (Original) A mobile network node facilitating maintaining connectivity with a correspondent node after changing network addresses, the mobile network node including a communications protocol stack comprising computer-executable instructions for facilitating maintaining connectivity between a mobile network node and a correspondent node after the mobile network node changes addresses, the computer-executable instructions facilitating performing, by the mobile node, the steps of:

registering an address, for the mobile node, with an authoritative name server, wherein the registering step comprises:

specifying a current address for the mobile node, and

specifying a supplementary value that ensures the current address will not be cached within non-authoritative name servers.

22. (Original) The mobile network node of claim 21 further comprising computer-executable instructions for performing, by the mobile node, the steps of:

connecting to a new network location;

receiving a second network address differing from the current address previously registered with the authoritative name server;

registering the second network address with the authoritative name server; and

issuing a first binding update to a correspondent node to which a connection was previously created while the mobile node resided at the first network address, wherein a specified destination address for the first binding update specifies a first correspondent node address.

23. (Original) The mobile network node of claim 22 further comprising computer-executable instructions for performing the steps of:

receiving, by the mobile node, a binding update acknowledgement from the correspondent node; and

restoring a disrupted connection between the mobile node and correspondent node.

24. (Original) The mobile network node of claim 22 further comprising computer-executable instructions for performing, by the mobile node, the further steps of:

registering a binding update failure with regard to the first binding update issued to the correspondent node at the first correspondent node address; and

issuing a naming query requesting a current address of the correspondent node.

25. (Original) The mobile network node of claim 24 further comprising computer-executable instructions for performing, by the mobile node, the steps of.

receiving a naming query response to the naming query including a second correspondent node address for the correspondent node that differs from the first correspondent node address; and

issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address.

26. (Original) The mobile network node of claim 22 wherein the new network location resides outside a home network of the mobile node, and further comprising computer-executable instructions for facilitating performing the steps of:

establishing a tunnel connection between the mobile node and a virtual private 20 network server; and

receiving, by the mobile node, a local network address specified by the virtual private network server, wherein the second network address corresponds to the local network address.

27. (Original) The mobile network node of claim 22 further comprising computer-executable instructions for:

initiating, by the mobile node, a binding connection through a rendezvous server residing outside the home network.

28. (Currently Amended) The mobile network node of claim [[22]] 21 further comprising computer-executable instructions for:
~~—issuing a naming query requesting a current address of the correspondent node, before receiving a response to the first binding update~~ wherein specifying the supplementary value comprises specifying a time-to-live (TTL) value of zero.

29. (Currently Amended) The mobile network node of claim [[28]] 22 further comprising computer-executable instructions for:
issuing a naming query requesting a current address of the correspondent node, before receiving a response to the first binding update;

receiving a naming query response to the naming query including a second correspondent node address for the correspondent node;

determining that the second correspondent node address differs from the first correspondent node address; and

issuing a second binding update to the correspondent node, wherein a specified destination address for the second binding update specifies the second correspondent node address.

30. (Currently amended) The mobile network node of claim [[29]] 21 wherein the ~~issuing a second binding update step is initiated based upon the determining step, and is therefore not dependent upon registering a failure of the first binding update issued to the correspondent node~~ authoritative name server is a domain name system (DNS) server.